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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,393	09/16/2003	Kevin Gamble	03-YTX-02	2926
7590 06/07/2004 Larson & Associates, P.C. 221 East Church Street Frederick, MD 21701-5405			EXAMINER NGUYEN, HAI L	
			ART UNIT 2816	PAPER NUMBER

DATE MAILED: 06/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicant(s)

10/663,393

Applicant(s)

GAMBLE, KEVIN

Examiner

Hai L. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 December 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/16/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Comino (US 5,805,011) in view of Inbar (5,838,510).

With regard to claims 1 and 14, Comino discloses in Fig. 1D a demodulating logarithmic amplifier, and a method of use thereof, comprising a plurality of serially coupled amplifier stages (A/Os); and a plurality of voltage-to-current converters (four right most G/Os), each having an input and an output, the input coupled to an output of a respective one of the plurality of serially coupled amplifier stages; wherein the outputs of each of the plurality of voltage-to-current converters are coupled together. The reference circuit meets all the claimed limitations except for a full wave rectifier (21) coupled to a logarithmic amplifier, wherein the input of a first amplifier stage is coupled to the full wave rectifier, as recited in the claim. Therefore, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention was made to utilize that full wave rectifier taught by Inbar in Fig. 1D of Comino for the advantage of improving the sensitive of the logarithmic amplifier in order to provide a larger output.

With regard to claim 2, the demodulating logarithmic amplifier further comprises a voltage-to-current converter (the first left most G/O) having an input coupled to the output of the

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full wave rectifier, and wherein an output of the converter is coupled to the outputs of each of the plurality of voltage-to-current converters.

With regard to claims 3-6 and 15-18, the references also meet the recited limitations in these claims.

With regard to claim 7, Comino discloses in Fig. 1D a demodulating logarithmic amplifier comprising a first means for amplifying (the first left most A/O); first converting means (the second left G/O), coupled to the first means for amplifying, for converting the amplified signal from voltage to current; second through Nth means for amplifying (three right most A/Os), where N is an integer greater than 2, serially coupled to the first means for amplifying and to each other; second through Nth converting means (three right most G/Os), where N is an integer greater than 2, coupled to the respective second through Nth means for amplifying, for converting the respective amplified signals from voltage to current; means for summing all of the converted current signals to provide an amplified current output (Ilog). Furthermore, the limitation "means for rectifying" is also met by Comino in view of Inbar; note the above discussion with regard to claim 1.

With regard to claim 8, the demodulating logarithmic amplifier further comprises an additional converting means (the first left most G/O) having an input coupled to the output of the means for rectifying and having an output coupled to the means for summing, for converting the rectified signal from voltage to current (Ilog).

With regard to claims 9-13, the references also meet the recited limitations in these claims.

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Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. For example, Gilbert (US 5,570,055) is cited as of interest because it discloses a Demodulating logarithmic amplifier circuit.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai L. Nguyen whose telephone number is 571-272-1747 and Right Fax number is 571-273-1747. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on 571-272-1740. The official fax phone number for the organization where this application or proceeding is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-1562.

HLN 
May 25, 2004


TIMOTHY P. CALLAHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800